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### Exam 2 Overview

- 1. Programming Library Classes
- 2. Miscellaneous
- 3. Geospatial + Tabular Data
- 4. Image Data

For each type, we will explain the general idea and resources you might want to look at

 The list of resources is not a limitation of what will be on the problem, but just there to help you study

# 1 - Programming Library Classes

#### General Idea

Write functions/classes that implement a specification like some library function/class that we have used before.

You don't have to memorize every function/class we have used, we will describe the behavior

- Lecture 10
- Lectures 11-12 can be helpful, but a bit too focused on NLP
- Section 4
- HW4 (focus on classes and objects, less TF-IDF and search)

### 2- Miscellaneous

#### General Idea

A series of short-answer questions about topics we have discussed in the course. Topics include but are not limited to

- Ethics
- Hashing
- Machine Learning
- Testing

- Lecture 16, 21, 24
- Homeworks

## 3 - Geospatial + Tabular Data

### General Idea

Write code that interacts with pandas and geopandas objects

- Lectures 19+20
- Section 7
- HW6

### 4 - Image Processing

### General Idea

- Simulate operations like broadcasting or convolutions
- Write code to do some image manipulation
- Write code that does something like a convolution

- Lectures 23+23
- Section 8
- HW7



Think &

1.5 minutes

Problem 1: How many weights will the neural network have to learn?







Pair 22

2 minutes

Problem 1: How many weights will the neural network have to learn?





## Brain Break

